

## Complete Summary

---

### GUIDELINE TITLE

Drug interactions with hormonal contraception.

### BIBLIOGRAPHIC SOURCE(S)

Faculty of Family Planning and Reproductive Health Care Clinical Effectiveness Unit. FFPRHC Guidance (April 2005). Drug interactions with hormonal contraception. J Fam Plann Reprod Health Care 2005 Apr; 31(2):139-51. [117 references] [PubMed](#)

### GUIDELINE STATUS

This is the current release of the guideline.

### \*\* REGULATORY ALERT \*\*

#### FDA WARNING/REGULATORY ALERT

Note from the National Guideline Clearinghouse: This guideline references a drug(s) for which important revised regulatory and/or warning information has been released.

- [September 20, 2006, Ortho Evra \(norelgestromin/ethinyl estradiol\)](#): Revisions to the prescribing information of Ortho Evra.
- [November 14, 2005, Ortho Evra \(norelgestromin/ethinyl estradiol transdermal system\)](#): Revisions to the label for Ortho Evra, a skin patch approved for birth control.

### COMPLETE SUMMARY CONTENT

\*\* REGULATORY ALERT \*\*

SCOPE

METHODOLOGY - including Rating Scheme and Cost Analysis

RECOMMENDATIONS

EVIDENCE SUPPORTING THE RECOMMENDATIONS

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

QUALIFYING STATEMENTS

IMPLEMENTATION OF THE GUIDELINE

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT

CATEGORIES

IDENTIFYING INFORMATION AND AVAILABILITY

DISCLAIMER

## SCOPE

### DISEASE/CONDITION(S)

- Unintended pregnancy
- Drug interactions with hormonal contraception

### GUIDELINE CATEGORY

Counseling  
Management  
Prevention

### CLINICAL SPECIALTY

Family Practice  
Internal Medicine  
Obstetrics and Gynecology  
Pharmacology

### INTENDED USERS

Advanced Practice Nurses  
Nurses  
Patients  
Pharmacists  
Physician Assistants  
Physicians

### GUIDELINE OBJECTIVE(S)

- To provide information for clinicians and women using hormonal contraception applicable when concurrent medications are prescribed
- To summarize evidence on interactions between hormonal contraception and liver enzyme-inducing drugs, non-liver enzyme-inducing antibiotics, drugs which may be toxic if serum concentrations increase, and commonly used drugs (prescription and non-prescription), which do and do not affect contraceptive efficacy

### TARGET POPULATION

Women of reproductive age using contraception who have been prescribed concomitant medication

### INTERVENTIONS AND PRACTICES CONSIDERED

1. Enquire and counsel patient about current and previous drug use, including prescription, non-prescription, and herbal drug use
2. Provide women with information about possible drug interaction between hormonal contraception and other drugs

3. Encourage women to consider a contraceptive method that is unaffected by the interacting drug
4. Educate women about which drugs may reduce the efficacy of hormonal contraception and advise about additional contraceptive protection, such as condoms

#### MAJOR OUTCOMES CONSIDERED

- Mechanism of drug interaction with hormonal contraception
- Efficacy of hormonal contraception
- Effects of drug interactions on contraceptive efficacy

### METHODOLOGY

#### METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)  
 Hand-searches of Published Literature (Secondary Sources)  
 Searches of Electronic Databases

#### DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Electronic searches were performed for MEDLINE (CD Ovid version) (1990-2004); EMBASE (1990-2004); PubMed (1990-2004); the Cochrane Library (to November 2004), and the US National Guideline Clearing House. The searches were performed using relevant medical subject headings (MeSH), terms, and text words. The Cochrane Library was searched for systematic reviews, meta-analyses, and controlled trials relevant to drug interactions with hormonal contraception. Previously existing guidelines from the Faculty of Family Planning and Reproductive Health Care (FFPRHC), the Royal College of Obstetricians and Gynaecologists (RCOG), the World Health Organization (WHO), and reference lists of identified publications were also searched. Similar search strategies have been used in the development of other national guidelines.

#### NUMBER OF SOURCE DOCUMENTS

Not stated

#### METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

#### RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

#### METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses  
Systematic Review with Evidence Tables

## DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Selected key publications were appraised according to standard methodological checklists before conclusions were considered as evidence. Evidence was graded using a scheme similar to that adopted by the Royal College of Obstetricians and Gynaecologists (RCOG) and other guideline development organizations.

Evidence tables are available on the Faculty of Family Planning and Reproductive Health Care (FFPRHC) Web site (<http://www.ffprhc.org.uk/>). These summarise relevant published evidence on drug interactions with hormonal contraception, which was identified and appraised in the development of this Guideline.

## METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

## DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

## RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Grades of Recommendation

A Evidence based on randomised controlled trials (RCTs)

B Evidence based on other robust experimental or observational studies

C Evidence is limited but the advice relies on expert opinion and has the endorsement of respected authorities

Good Practice Point where no evidence exists but where best practice is based on the clinical experience of the Expert Group

## COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

## METHOD OF GUIDELINE VALIDATION

Peer Review

## DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not stated

## RECOMMENDATIONS

### MAJOR RECOMMENDATIONS

Definitions of the grades of recommendation based on levels of evidence (A-C, Good Practice Point) are provided at the end of the "Major Recommendations" field.

What should be discussed when prescribing drugs to women using hormonal contraception?

1. Clinicians should consider the possibility of a drug interaction when prescribing contraception and when prescribing other medicines to women using hormonal contraception (Good Practice Point).
2. Clinicians giving women information on contraceptive options should enquire about current and previous drug use; prescription, nonprescription and herbal drug use; and specifically about use of drugs which induce liver enzymes and non-liver enzyme-inducing antibiotics (Good Practice Point).
3. Women should be informed that some drugs might reduce the effectiveness of hormonal contraception and should be advised where to seek advice if other drugs are taken (Good Practice Point).
4. After counseling, women using short courses of drugs that interact with hormonal contraception may choose to continue their current hormonal method even if additional contraception, such as condoms, is required. However, women on long-term courses of drugs that continue to interact with hormonal contraception should be encouraged to consider a contraceptive method that is unaffected by the interacting drug (Good Practice Point).

What drugs may reduce the efficacy of hormonal contraception?

#### Liver Enzyme-inducing Drugs

5. Women should be informed that drugs which induce liver enzymes can reduce the efficacy of combined hormonal contraception, progestogen-only pills (POPs), and implants but do not appear to reduce the efficacy of progestogen-only injectables or the levonorgestrel-releasing intrauterine system (LNG-IUS) (Grade C).

Refer to Table 1 titled, "Drugs that induce liver enzymes and relevant associated drugs that do not induce liver enzymes" in the original guideline document for additional information.

#### Non-liver Enzyme-inducing Antibiotics

6. Women should be informed that non-liver enzyme-inducing antibiotics can reduce the efficacy of combined hormonal contraception but there is no reduction in the efficacy of progestogen-only methods (Grade C).

What advice should be given to women using hormonal contraception and liver enzyme-inducing drugs?

## Combined Hormonal Contraception

7. Women taking liver enzyme-inducing drugs who wish to use combined oral contraception (COC) should choose a regimen containing at least 50 micrograms ethinylestradiol (EE) daily. Additional contraceptive protection, such as condoms, should be used until 4 weeks after the liver enzyme-inducing drug has been stopped. Information should be given on the use of alternative methods of contraception if liver enzyme-inducing drugs are to be used long term (Grade C).
8. Breakthrough bleeding does not necessarily indicate low serum EE concentrations and risk of ovulation. Nevertheless, women using liver enzyme-inducing drugs with breakthrough bleeding may increase their dose of EE above 50 micrograms daily (Good Practice Point).
9. No evidence was identified that supports omitting or reducing the pill-free interval to reduce the risk of ovulation in women using liver enzyme-inducers (Good Practice Point).
10. Women using liver enzyme-inducing drugs may use a combined contraceptive patch with additional contraceptive protection, such as condoms, until 4 weeks after the liver enzyme-inducing drug has been stopped. Information should be given on the use of alternative methods of contraception (Grade C).
11. Women using even short courses of rifampicin (for prophylaxis) should be advised to use additional contraception during the course and for 4 weeks afterwards (Grade C).

Refer to Table 2, "Advice regarding contraceptive use for women using liver enzyme-inducing drugs" in the original guideline document for additional information.

## Progestogen-only Contraception

12. Women using liver enzyme-inducing drugs should be advised that progestogen-only injectables are unaffected and can be continued with the usual injection interval (Grade C).
13. Women using liver enzyme-inducing drugs in the short term may choose to continue with progestogen-only implants. Additional contraceptive protection, such as condoms, should be used until 4 weeks after the liver enzyme-inducing drug has stopped. Information should be given on the use of alternative contraception if liver enzyme-inducing drugs are to be used long term (Good Practice Point).
14. Women using POPs should be advised to consider alternative contraception if liver enzyme-inducing drugs are used (Grade C).
15. Women can be advised that the LNG-IUS appears to be unaffected by liver enzyme-inducing drugs (Grade B).
16. Women using liver enzyme-inducing drugs who require progestogen-only emergency contraception (POEC) should be advised: to take a total of 2.25 mg levonorgestrel (LNG) as a single dose as soon as possible and within 72 hours of unprotected sex; that this use is outside the product license; and about the alternative use of an intrauterine contraceptive device (IUD) (Grade C).

What advice should be given to women using hormonal contraception and non-liver enzyme-inducing antibiotics?

17. Women should be advised that pregnancies have been reported in COC users taking non-liver enzyme-inducing antibiotics, but the evidence does not generally support reduced COC efficacy and causation (Grade B).
18. A COC user taking a short course (less than 3 weeks) of non-liver enzyme-inducing antibiotics should be advised to use additional contraceptive protection, such as condoms, during the treatment and for 7 days after the antibiotic has been stopped. If fewer than seven active pills are left in the pack after antibiotics have stopped, she should omit the pill-free interval (or discard any inactive pills) (Grade C).
19. A combined contraceptive patch user taking a short course (less than 3 weeks) of non-liver enzyme-inducing antibiotics (except tetracycline) should be advised to use additional contraceptive protection, such as condoms, during the treatment and for 7 days after the antibiotic is stopped. If there are less than 7 days remaining before her usual patch-free week, another patch should be applied when due for changing and the patch-free week delayed by 7 days (Grade C).
20. A woman who is an established user of non-liver enzyme-inducing antibiotics (longer than or equal to 3 weeks) does not require additional contraceptive protection when starting combined hormonal contraception unless she changes to a different antibiotic (Grade C).
21. Women should be informed that the efficacy of progestogen-only methods of contraception is not reduced by non-liver enzyme-inducing antibiotics and additional contraceptive protection is not required (Grade C).
22. Women using non-liver enzyme-inducing antibiotics (short- or long-term) who require POEC may be advised that the usual dose (1.5 mg within 72 hours of unprotected intercourse) is appropriate (Grade C).

Refer to Table 3, "Advice regarding contraceptive use for women using non-liver enzyme inducing antibiotics" in the original guideline document for additional information.

#### Definitions:

Grades of Recommendation

A Evidence based on randomised controlled trials (RCTs)

B Evidence based on other robust experimental or observational studies

C Evidence is limited but the advice relies on expert opinion and has the endorsement of respected authorities

Good Practice Point where no evidence exists but where best practice is based on the clinical experience of the Expert Group

#### CLINICAL ALGORITHM(S)

None provided

## EVIDENCE SUPPORTING THE RECOMMENDATIONS

### TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations" field).

## BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

### POTENTIAL BENEFITS

Appropriate counseling and management of women of reproductive age who are prescribed medication that may affect contraceptive efficacy

### POTENTIAL HARMS

Not stated

## QUALIFYING STATEMENTS

### QUALIFYING STATEMENTS

- This guideline does not consider the effects on hormonal contraception of the underlying condition that necessitated concurrent medication.
- There is a lack of good quality, robust evidence on the effects of drugs on hormonal contraception. Most data was obtained from case reports, which provides limited evidence. Pregnancy has been reported in women using hormonal contraception following use of concomitant drugs. Nevertheless, this does not prove that the drug was responsible for contraceptive failure leading to pregnancy.

## IMPLEMENTATION OF THE GUIDELINE

### DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

## INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

### IOM CARE NEED

Staying Healthy

### IOM DOMAIN

Effectiveness  
Patient-centeredness

## IDENTIFYING INFORMATION AND AVAILABILITY

### BIBLIOGRAPHIC SOURCE(S)

Faculty of Family Planning and Reproductive Health Care Clinical Effectiveness Unit. FFPRHC Guidance (April 2005). Drug interactions with hormonal contraception. J Fam Plann Reprod Health Care 2005 Apr; 31(2):139-51. [117 references] [PubMed](#)

### ADAPTATION

Not applicable: The guideline was not adapted from another source.

### DATE RELEASED

2005 Apr

### GUIDELINE DEVELOPER(S)

Faculty of Family Planning and Reproductive Health Care - Professional Association

### SOURCE(S) OF FUNDING

Faculty of Family Planning and Reproductive Health Care

### GUIDELINE COMMITTEE

Clinical Effectiveness Committee

### COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Clinical Effectiveness Unit (CEU): Dr Gillian Penney (Director), Dr Susan Brechin (Co-ordinator); Ms Gillian Stephen (Research Assistant)

Clinical Effectiveness Committee: Dr Andrea Brockmeyer (Subspecialty Trainee in Sexual and Reproductive Health Care, Abacus Clinics, Liverpool); Mr Craig Rore (Lead Pharmacist, Grampian Medicines Information Centre, Aberdeen Royal Infirmary, Aberdeen); Dr Alyson Elliman (Lead Associate Specialist, Family Planning Service, Croydon Primary Care Trust/FFPRHC Clinical Standards Committee Member); Dr James McClay (Senior Lecturer in Clinical Pharmacology, Department of Medicine and Therapeutics, Aberdeen Royal Infirmary, Aberdeen); Ms Susan Stewart (Helpline and Information Manager, Epilepsy Scotland, Glasgow); Dr Kate Weaver (Staff Grade, Family Planning and Reproductive Health Service, Dean Terrace, Edinburgh)

### FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

### GUIDELINE STATUS

This is the current release of the guideline.

#### GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the [Faculty of Family Planning and Reproductive Health Care Web site](#).

Print copies: Available from the Faculty of Family Planning and Reproductive Health Care, 27 Sussex Place, Regent's Park, London NW1 4RG

#### AVAILABILITY OF COMPANION DOCUMENTS

None available

#### PATIENT RESOURCES

None available

#### NGC STATUS

This NGC summary was completed by ECRI on July 19, 2005. This summary was updated by ECRI on October 4, 2006 following the new FDA advisory on Ortho Evra.

#### COPYRIGHT STATEMENT

This NGC summary is based on the original guideline, which is subject to the guideline developer's copyright restrictions.

### DISCLAIMER

#### NGC DISCLAIMER

The National Guideline Clearinghouse™ (NGC) does not develop, produce, approve, or endorse the guidelines represented on this site.

All guidelines summarized by NGC and hosted on our site are produced under the auspices of medical specialty societies, relevant professional associations, public or private organizations, other government agencies, health care organizations or plans, and similar entities.

Guidelines represented on the NGC Web site are submitted by guideline developers, and are screened solely to determine that they meet the NGC Inclusion Criteria which may be found at <http://www.guideline.gov/about/inclusion.aspx>.

NGC, AHRQ, and its contractor ECRI make no warranties concerning the content or clinical efficacy or effectiveness of the clinical practice guidelines and related materials represented on this site. Moreover, the views and opinions of developers or authors of guidelines represented on this site do not necessarily state or reflect

those of NGC, AHRQ, or its contractor ECRI, and inclusion or hosting of guidelines in NGC may not be used for advertising or commercial endorsement purposes.

Readers with questions regarding guideline content are directed to contact the guideline developer.

© 1998-2006 National Guideline Clearinghouse

Date Modified: 10/2/2006

